

IN THE SPECIFICATION:

Please enter the following amendments to correct typographical and translation errors in the specification. No new matter has been added.

1. Please replace the paragraphs beginning on page 1, line 1 and ending on page 1, line 21 with the following amended paragraphs.

The invention relates to a control ~~panel~~ unit for video apparatus.

~~Control~~ Operating panels for video apparatus generally comprise control elements by means of which for example switch operations can be triggered by a person using the control ~~panel~~ unit, display elements for instructing the user, and at least one interface to which apparatus to be controlled such as, for example, routers or mixing devices, can be connected. Depending on the selected interface between the video apparatus and the control ~~panel~~ unit, the control ~~panel~~ unit can be set up while it is not in the neighborhood of the apparatus to be controlled.

It is an object of the invention to provide a control ~~panel~~ unit that has a higher degree of flexibility compared to known control ~~panels~~ units for video apparatus.

SUMMARY OF THE INVENTION

This object is achieved in that the control ~~panel~~ unit comprises at least a control module and an operating module, the control module having a first interface for connection to a control panel and at least a second interface for connection of the operating module, and the operating module having at least an interface for connection to the control module.

By dividing the control ~~panel~~ unit into at least two modular sub-assemblies which can communicate with each other via an interface, the dimensions of the housings of the respective modules can be adapted to the elements contained in each respective module. In this manner the operating module can be made very flat and with little depth, so that it can also be built-in in a housing having little build-in depth. The control module which evaluates the actuation of operating elements and drives display elements, can be built-in at a location at which the build-in depth is unimportant because the interface is at a distance from the operating module.

2. Please replace the paragraphs beginning on page 2, line 23 and ending on page 3, line 21 with the following amended paragraphs.

Fig. 1 shows the invention by the example of a so-called router. The router comprises a digital switching network 1 by means of which signal sources, which can be connected to inputs 10 ... 14, can be optionally connected to signal sources that can be connected to outputs 15 ... 19. The signals to be routed are both video signals and audio signals. A control panel 2, which receives respective switching instructions from a control ~~panel~~ unit 3, controls the digital switching network 1 in accordance with the switch instructions.

In the example of embodiment, the control panel comprises a plurality of pairs of modules 3. In the simplest stage of construction the control ~~panel~~ unit may also comprise only a single pair of modules 3. Each pair of modules 3 is in the form of an operating module 31 and a control module 32. The operating module 31 has sixteen juxtaposed keys 33, with each key having a liquid crystal display (LC display) with 36 times 24 ~~picture elements~~ pixels. By means of the LC display, symbols, for example arrows for a menu drive and also alphanumerical signs, for example for denoting names for signal sources and signal ~~wells~~ drains, can be represented. With 36 times 24 pixels, preferably three-line displays of six alphanumeric signs each or two-line displays of four alphanumeric signs or a one-line display with two alphanumeric signs can be realized. In the case of the two-line display, for example, its first line may contain the name of a signal source and its second line the name of a signal ~~well~~ drain. By means of light-emitting diodes of various colors the backlight of the LCD displays can be given in various colors. For example, by means of a green backlight there may be signaled that the signal source and signal ~~well~~ drain respectively shown on the display, have not yet been interconnected. If, by pressing the respective key, the signal source and signal ~~well~~ drain are connected, this connection is signaled by a red backlight.

By means of a seventeenth key, an operating menu can be invoked by means of which the function assigned to each key can be changed.

The operating module 31 contains commercially available pushbuttons with integrated LC display and integrated backlight as well as mechanical components and also an interface which will be referenced operating interface in the following to distinguish it from other interfaces. Since these commercially available pushbuttons with integrated LC display and integrated backlight have already integrated electronics for the driving (display and backlight are controlled via serial data words), the operating module could also be made completely without additional electronics. However, this could lead to the fact that the operating interface should then have a multiplicity of parallel terminals.

3. Please replace the paragraph beginning on page 4, line 14 and ending on page 4, line 29 with the following amended paragraph.

In the operating module 31 the operating interface is arranged as a plug 34. The control module has an operating interface corresponding to this and arranged as a socket 35. In this manner, the operating module 31 and control module 32 can also be interconnected directly, that is to say, without the insertion of an electric line 36. By means of two screws the control module 32 can be detachably connected to press nuts provided in the housing of the operating module 31, to ~~build-in~~ mount the pair of modules 3 as a mechanical unit in a frame. Preferably, the height of the control module 32 corresponds at most to the height of the operating module 31 to be able to accommodate a plurality of operating modules one under the other without spaces. When the operating module 31 is built-in in a flat housing, for example, a desktop housing, these screws may be removed and the operating module and control module can be interconnected by means of a cable 36 with the respective plug and socket. With the arrangement of the operating interface described in the Figure, operating module 31 and control module 32 can be built-in up to a meter apart. This is sufficient for the application under consideration. Naturally, also larger distances may be bridged by additional driver modules and so on.

4. Please replace the paragraph beginning on page 5, line 4 and ending on page 5, line 34 with the following amended paragraph.

By means of the identification code ID that has been read out, the processor can distinguish different structures of operating modules and inform the control panel 2 thereof. In this manner, the control panel 2 can detect how many operating modules there are and which operating modules a control panel actually consists of. ~~This makes it possible to remove a control panel in a simple manner, so that only new or other pairs of modules can be added or removed.~~ This allows for easy expansion of a control unit by simply adding or removing new or other pairs of modules. For controlling a menu, less than sixteen keys are necessary. For this purpose an ~~An~~ operating module having fewer keys can ~~then~~ be installed, which also optically signals ~~another~~ a different function. Based on the identification, the processor μP can therefore recognize which operating module is to be used as a dedicated menu keyboard. This is very user-friendly because in this way erroneous configurations by a user are avoided.

Information received from the control panel 2 via the control panel interface is converted into the multiplexed data stream described with reference to the operating module by the processor μP of the control module 32 to drive the LC displays. For this purpose,

respective data for driving the LC displays are read from the data bus DATA and combined to the described serial data stream by means of a parallel-to-serial converter which is in the form of a buffer memory LATCH, DUART accordingly driven by the processor μ P.

For the transmission of the data from the control module 32 to the control panel 2 and back, a proprietary protocol is used. The control panel interface ~~35~~ 37 is arranged as an RS-485 interface, so that control panel and control unit can be set up 1200 meters apart.

Preferably, the control module 32 has a dual control panel interface 37, so that a plurality of control modules can easily be cascaded. In this manner, also the respective operating modules are cascaded, while it is assumed that the operating modules are arranged one below ~~one another~~ the other for this purpose.

This may simplify the instructions to the user. One or more operating modules show the selectable signal sources, while one or more operating modules show the selectable signal ~~wells~~ drains and an operating module, for example, the bottommost operating module, can be reserved for entering control instructions only. By actuating a pushbutton assigned to a signal source and a pushbutton assigned to a signal—~~well~~ drain directly after each other, the signal source and signal ~~well~~ drain selected in this manner can be assigned to each other. The instructions to the operator are arranged such that the displays can be scrolled up and down line by line.